

REMARKS

Applicant respectfully request reconsideration and allowance of the present application in view of the foregoing amendments and following remarks. By this Amendment, claims 1-23 have been canceled, claims 24, 26 and 29 have been amended and new claims 34 and 35 have been added. The drawings and specification have also been amended to correct informalities. Claims 24-35 will be pending in the application.

Election / Restriction

Applicant affirms the election of claims 24-33 for examination, and herewith cancel claims 1-23. Contrary to the Office Action, this election was made with traverse.

Objections to the Drawings

The drawings stand objected to for informalities. By this Amendment, Applicant proposes to conform FIGs. 3 and 4 to the specification by adding reference labels for DP and DN signals (page 11 line 21 of the disclosure), OUTN and OUTP (page 13, line 14 and page 14, line 7 of the disclosure), reference symbols 142-1 to 142-n (page 12, line 12 of the disclosure), 160-1 to 160-n (page 12, line 13 of the disclosure), and 160-1 (page 14, line 14 of the disclosure).

Additionally, Applicant proposes to amend FIG. 4 to more clearly show multiple instances of a gain cells 160-1 to 160-n and multiply occurring switch network blocks 142-1 to 142-n. Applicant also proposes to amend FIG. 4 to more clearly indicate that reference number 160 refers to only a gain cell. Further, it will be apparent to one skilled in the art that the reference number 160 refers to any of the multiple instances of gain cells 160-1 to 160-n as shown in Figure 4 and that a reference number such as 160-n refers to a specific instance of the gain cell (in the example of 160-n, the nth instance). Likewise, the reference number 142 refers to any of the multiple instances of switch network blocks 142-1 to 142-n shown in Figure 4 and that a reference number such as 142-n refers to a specific instance of the switch network block. For the sake of consistency, Applicant has also amended the specification to replace the reference number 160' with the reference number 160.

Applicant provides herewith corrected drawings as required by the Examiner. Applicant requests entry as Figures 3 and 4 as shown on the Replacement Sheets attached as the Appendix

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to this reply. Applicant will provide formal drawings upon approval of the amendments by the Examiner.

For the foregoing reasons, the objections to the drawings should be withdrawn.

Objections to the Specification

The specification stands objected to for various informalities. The specification has been amended as suggested in the Office Action, thus obviating the objections.

Objections to the Claims

In the Office Action, the Examiner objects to claims 24, 26 and 29 because of informalities. Applicant has amended these claims as suggested by the Examiner, and so the objections should be withdrawn.

Claim Rejections Under 35 U.S.C. § 103

Claims 24, 25, 26, 27 and 30 stand rejected as allegedly being unpatentable under 35 U.S.C. § 103(a) over U.S. Patent No. 4,520,324 to Jett et al. (hereinafter "Jett") in view of U.S. Patent No. 5,313,172 to Vagher (hereinafter "Vagher"). Claims 28-32 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Vagher in view of Jett and further in view of U.S. Patent No. 6,201,443 to Tanji ("Tanji"). Claim 33 stands rejected under 35 U.S.C. § 103 as being unpatentable over Jett in view of Vagher and further in view of U.S. Patent No. 5,313,172 to Yun ("Yun"). Applicant respectfully traverse the rejections for the reasons set forth below.

Independent Claim 24 Patentably Defines Over Jett and Vagher

Regarding claim 24, Jett fails to disclose or suggest the elements as alleged in the Office Action. For example, the Examiner alleges that Jett discloses a variable gain amplifier including an inductively loaded folded cascode circuit that inputs an input differential signal having a referenced output level and outputs a current, as required by claim 24. However, a review of the cited figure 3 of Jett reveals that, while superficially similar, the Jett amplifier operates in a manner significantly different from amplifiers according to the presently claimed invention. Figure 3 of the present application illustrates the claimed current output (OUTP and OUTN of the present application), while figure 3 of Jett clearly shows a voltage output (21 and 21' of Jett

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and see also Jett at col. 3 lines 23-44). Further, the outputs from the Jett circuit (21 and 21' of Jett) correspond to the inputs to the inductively folded cascode circuit of the present invention (DN 113 and DP 115 of the present application). The differences in input and output configuration are related to functional differences in application of the circuits of Jett and the present invention and demonstrate clearly that Jett does not disclose or otherwise suggest "an inductively loaded folded cascode circuit that ... outputs a current," as required by claim 24. Because Jett does not disclose an essential element of claim 24, and the Office Action does not allege that this element is found in Vagher either, Applicant respectfully submits that claim 24 patentably defines over the Jett / Vagher combination for at least this reason.

The Examiner acknowledges that Jett fails to disclose remaining elements of claim 24 but suggests that Vagher discloses "a digitally switched gain amplifier with a plurality of gain cells, each gain cell coupled to the input current load circuit and receiving the output differential signal..." Applicant respectfully disagrees. Vagher is directed to a high-gain adjustable chain of amplifiers (see table 1 at col. 4 line 45, showing gains on the order of 115 dB). The devices disclosed by Vagher are formed from serially connected amplifiers for providing the desired high gain (see Vagher at Figure 1 and col. 2, lines 37-44).

In contrast, one of the objects of the present invention includes the provision of an apparatus and a method that allow for gradual step increases in output power to avoid the output power from exceeding a predetermined maximum output power and the provision of a method of operating a variable gain amplifier using the sensed output power to determine whether to back-off from the current output power. Embodiments of the invention achieve these and other objectives by providing, for example ...

multiple ones of the gain cells 160 in the variable gain amplifier 130 will be connected in parallel such that two signals, GN and GP, drive the common GN and GP input of all of the gain cells, and two outputs, OUTN and OUTP, will be driven by the common OUTN and OUTP outputs of all of the gain cells.

See the present specification at page 14, lines 5-9. It will be appreciated then, that the parallel connected amplifiers of the present invention present an arrangement substantially different from the serially connected amplifiers of Vagher. Specifically, in contrast to Vagher and required by claim 24, in the present invention each gain [is] cell coupled to the input current load circuit and

receiv[es] the output differential signal. Further, the objective of controlling output power below a maximum is starkly different from Vagher's objective of maximizing output power. Therefore, the configuration and purpose of the present invention are substantially different from the configuration and purpose of the combined Jett and Vagher applications and the cited references cannot be said to anticipate or suggest the subject matter of the present invention.

Claim 24 further requires that "each switching circuit [is] coupled to one of the plurality of gain cells and each switching circuit operating in a positive mode and in a negative mode, the negative mode having an opposite polarity of the positive mode, and wherein the plurality of switching circuits operate to place more of the plurality of gain cells in the positive mode than in the negative mode." Vagher does not disclose or suggest these very specific claim limitations. Col. 4, lines 60-64, relied on in the Office Action, merely discloses the operation of one amplifier (i.e. the alleged gain cell) to set a gain value. This does not disclose or suggest anything about how the switching circuits operate, much less "to place more of the plurality of gain cells in the positive mode than in the negative mode," as required by claim 24.

For at least the foregoing reasons, therefore, Applicant respectfully requests withdrawal of the rejection of independent claim 24.

Dependent Claims 25-33 Patentably Define Over Vagher, Jett, Tanji and/or Yun

Claims 25-33 all ultimately depend from independent claim 24. The allowability of dependent claims 25-33 thus follows from the allowability of independent claim 24. Since the combination of Vagher and Jett fail to anticipate or render obvious claim 24, and the addition of the Yun and Tanji references provide no support for the Examiners rejection of claim 24, dependent claims 25-33 are also allowable over the art of record.

Moreover, Applicant observes that Tanji is directed to a variable gain amplifier and Yun is directed to smart antenna systems. Neither of these references is directly related to the transceiver having a constant power output of the present application. Therefore, Applicant respectfully submits that combinations Vagher, Jett, Yun and Tanji fail to disclose all elements of claims 25-33 or to render these latter claims obvious.

In summary, for at least the reasons presented above, the combination of Jett and Vagher does not disclose or suggest the variable gain amplifier, inductively loaded folded cascode circuit,

input current load circuit, plurality of gain cells, and plurality of switching circuits required by claim 24 of the present invention. Neither do combinations of Jett, Vagher Yun and Tanji anticipate or suggest the subject matter of the dependent claims 25-33. Accordingly, Applicant respectfully submits that claims 24-33 are allowable over the art of record.

New Claims

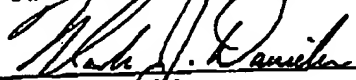
By this amendment, claims 34 and 35 have been added. Claims 34 and 35 depend from and further limit independent claim 24 in a patentable sense and, thus, are in condition for allowance. Accordingly, Applicant requests allowance of claims 34 and 35.

Conclusion

All objections and rejections having been addressed, it is respectfully submitted that the present application is in a condition of allowance and a Notice to that effect is earnestly solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

Respectfully submitted,
PILLSBURY WINTHROP LLP

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